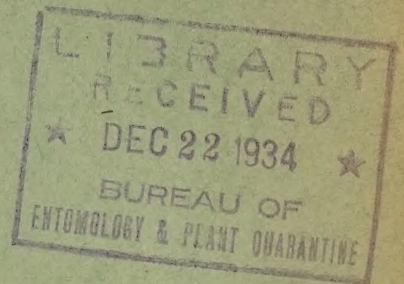


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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
INSECTICIDE DIVISION

Patent List No. 33



A LIST OF
UNITED STATES PATENTS
Issued from 1917 to 1933 inclusive
relating to
INSECTICIDE SPRAYERS, PART I

Compiled by

R. C. Roark

Washington, D. C.
November, 1934.

A LIST OF UNITED STATES PATENTS ISSUED FROM 1917 TO 1933,
INCLUSIVE, RELATING TO INSECTICIDE SPRAYERS,
PART I

Compiled by

R. C. Roark

Insecticide Division, Bureau of Entomology and Plant Quarantine

One hundred and two devices are mentioned in this list.

Every effort has been made by the compiler to make this list of patents complete and no discrimination is intended against any patent mention of which is inadvertently omitted.

The Department of Agriculture assumes no responsibility for the merits or workableness of any of the patents, nor does it recommend any of the inventions listed.

1,215,218 (Feb. 6, 1917; appl. May 7, 1914). DISINFECTING APPARATUS. Walter H. Tibbals, Syracuse, N.Y. - Liquid can be discharged at regular or irregular intervals or in a continuous stream from this container for germ or vermin destroying liquid.

1,252,756 (Jan. 8, 1918; appl. July 6, 1915). TREE-SPRAYER. Jay Wilcox, Grand Rapids, Mich. - This device provides means in a fruit tree spraying machine whereby the flow of spraying solution is automatically cut off as soon as an excess pressure is created in the conductor pipes, thus preventing the ordinary overflow and waste beyond the pump.

1,258,193 (Mar. 5, 1918; appl. Nov. 17, 1916). COMPRESSION-SPRAY. Alvin B. Cook, Castile, N. Y. - This device for spraying plants with various kinds of solutions is adapted to be attached to a cultivator and operated by the occupant of the seat thereof.

1,261,101 (Apr. 2, 1918; appl. June 19, 1916). SPRAYING APPARATUS. Joseph T. Clark, De Graff, Minn. - This spraying attachment for cultivators is actuated by the rotation of the cultivator wheels.

1,265,366 (May 7, 1918; appl. Mar. 18, 1916). SPRAY-PUMP. Orlando W. Parsell, Bad Axe, Mich. - This pump is designed for use in spraying vegetation.

1,270,510 (June 25, 1918; appl. Sept. 6, 1917). POISON-WHEAT DISTRIBUTOR. Albert H. Goodman, Oakland, Ore. - This device dispenses poison in the form of dry substances such as poison seed, wheat or other similar material that may be eaten by rodents and other small animals.

1,287,578 (Dec. 10, 1918; appl. Mar. 7, 1916). SPRAYING - MACHINE. James W. Dorris, Sullivan, Ind. - This machine is intended for spraying various types of liquid, such as are used for killing insect life upon trees, plants or flowers. It may also be used for sprinkling.

1,295,420 (Feb. 25, 1919; appl. Sept. 3, 1918). SPRAYER. Henry E. Brandt, Stillwater, Minn. - This spraying device has a tank for containing the liquid to be sprayed and is equipped with an air pump detachably applied thereto, and arranged to produce air pressure in the said tank.

1,300,170 (Apr. 8, 1919; appl. June 12, 1918). GASIFYING APPARATUS. Daniel H. Jefferson, Los Angeles, Calif., - One-half to Frank E. Andres, Alhambra, Calif. - Apparatus for gasifying liquid hydrocyanic acid for fumigating trees is described.

1,332,623 (Mar. 2, 1920; appl. Apr. 2, 1914; renewed Aug. 1, 1919). DISINFECTING OR AIR-PURIFYING APPARATUS. Julian G. Goodhue, Chicago, Ill. - The Universal Utilities Co., Chicago, Ill. - This device comprises a reservoir and an atomizer for spraying a disinfectant liquid into the air.

1,339,382 (May 11, 1920; appl. Jan. 17, 1919). SPRAYING APPARATUS. Herman Barber, Elwood, Ind. - This portable apparatus for spraying plants and trees or for use as a chemical fire extinguishing unit comprises a tank for holding liquid and an air pump which discharges into the tank. The pump is operated by the wheels of the sprayer when it is in motion.

1,368,123 (Feb. 8, 1921; appl. Oct. 19, 1920). SWINGLETREE. Samuel A. Donaldson, Phil Campbell, Ala. - This swingletree has means to receive an insecticide and means whereby the insecticide may be distributed upon vegetation.

1,374,274 (Apr. 12, 1921; appl. June 5, 1920). SPRAYER ATTACHMENT. James Barrett, Murdock, Minn. - This sprayer is adapted for use on and in conjunction with a cultivator or other farm implement.

1,387,352 (Aug. 9, 1921; appl. Apr. 23, 1920). SPRAYER DEVICE. Joseph Clark, De Graff, Minn. - This sprayer attachment for a cultivator is actuated by the motion of the wheels.

1,393,850 (Oct. 18, 1921; appl. Nov. 5, 1920). SPRAYER ATTACHMENT FOR CULTIVATORS. Theodore F. Thompson, Astoria, S. Dak. - This sprayer for use on a cultivator is readily removed or replaced.

1,395,965 (Nov. 1, 1921; appl. Aug. 13, 1919). ATOMIZING AND SPRAYING DEVICE. Edward J. McLean, San Francisco, and Stephen W. McGavran, Burlingame, Calif. - This compressed air-operated device is applicable to horticultural spraying, disinfecting, and

various other operations.

1,397,023 (Nov. 15, 1921; appl. Apr. 7, 1919). LIQUID-PROJECTING DEVICE. Harry E. Tunnell, New York, N. Y. - This device primarily intended for a carbon tetrachloride fire extinguisher, may also be used for spraying disinfecting liquid and the like.

1,416,065 (May 16, 1922; appl. Oct. 23, 1920). SPRAYING APPARATUS. John A. Rhodes, Macon, Ga., - One-third to Albert E. Jordan and one-third to Horatio H. Newman, Sandersville, Ga. - In this spraying apparatus for cotton and other growing plants the pump is connected with the axle of the wheel and is operated as the machine is drawn between the rows of plants.

1,447,220 (Mar. 6, 1923; appl. Mar. 10, 1921). GOPHER POISONER. William J. Mervyn, Gull Lake, Saskatchewan, Canada, - This invention provides means whereby a predetermined quantity of poisoned grain or the like may be discharged from the distributor at will. A further object of the invention is to provide a distributor of the class described which is simple, efficient and cheap to manufacture.

1,454,824 (May 8, 1923; appl. Sept. 30, 1921). SPRAYING DEVICE. Arenth A. Stubfors, Spooner, Wis. - A machine for spraying plants in the field is provided with an attachment to bend standing plants at the time a liquid is discharged upon such plants.

1,459,955 (June 26, 1923; appl. Feb. 28, 1923). POWDER SPRAYER. Elmer Johnson, Washington, D. C. - U. S. Government and People of the United States. - This hopper device for applying insecticide dust to cotton to combat the boll weevil can be attached to the frame of a vehicle such as an airplane.

1,471,256 (Oct. 16, 1923; appl. Feb. 24, 1920). SPRAYER. John C. Frederick, Bethlehem, Pa. - This sprayer may be attached to a plow, cultivator, or other agricultural implement.

1,480,154 (Jan. 8, 1924; appl. Sept. 27, 1921). POISON DISTRIBUTOR. Phillips E. Crutchfield, Conyers, Ga. - One-third to Charles E. Reagan and one-third to Reuban L. Blackwell, Conyers, Ga. - This device for dispensing liquid poison for killing insects on cotton plants, potato plants and the like, may be secured to a plow beam or stock or other convenient support or used as a hand distributor.

1,485,222 (Feb. 26, 1924; appl. Aug. 18, 1922). SPRAYING APPARATUS. Charles L. Ginty, Cambria, Lockport, N. Y. - A power sprayer for spraying trees, crops and the like is described.

1,488,084 (Mar. 25, 1924; appl. Aug. 17, 1922). NOZZLE FOR PLANT SPRAYERS. Kelley G. Yonce, Ridge Spring, S. C. - A nozzle for use in spraying cotton or other growing plant with an insecticide fluid or solution is described which comprises a head block with inlet and discharge passage, a trough secured to the block, and flexi-

ble discharge strips arranged beneath the block and extended through the trough and out.

1,489,452 (Apr. 8, 1924; appl. Dec. 18, 1919). HAND SPRAYER. James Napolis and Samuel Dellagala, Worcester, Mass. - This hand sprayer for spraying trees, vines, etc., is readily handled by one operator.

1,491,872 (Apr. 29, 1924; appl. May 24, 1923). POISON APPLICATOR. Jewell P. McLaurin, Dillon, S. C. - This sprinkler can type device has a pump attached to the spout for applying calcium arsenate solution to plants to kill the boll weevil.

1,493,349 (May 6, 1924; appl. June 19, 1923). POISON DISTRIBUTOR. Emory La Roche, Madoc, Mont. - This device is designed for distributing poisoned grain at desired points for killing undesirable animals, such as gophers.

1,494,497 (May 20, 1924; appl. May 16, 1922). APPARATUS FOR AND METHOD OF EXTERMINATING GARDEN PESTS AND FOR IRRIGATING. O. May, Punta Gorda, Fla. - This apparatus is used in combating Nematodea ("eel worms") and Gryllotalpa ("mole-crickets") in orchards and garden plots in Florida during the rainy season. The plot is flooded with water, which drowns the "eel-worms". Kerosene or other similar oil is poured upon the water on the windward side and, being carried across by the wind, kills the "mole crickets" which swim on the surface.

1,495,506 (May 27, 1924; appl. Feb. 8, 1923). SPRAYER. Thomas H. Debnam and Edwin C. Ferguson, Suffolk, Va. - The Boll-Weevil Exterminator Co., Baltimore, Md. - This apparatus is a horse-drawn one of the kind adapted to spray cotton plants for the purpose of killing boll weevils.

1,497,244 (June 10, 1924; appl. Aug. 7, 1922). BOLL-WEEVIL EXTERMINATOR. Pinkney C. Mattox, Los Angeles, Calif. - This sprayer holds a hood over the plants to be treated and the liquid spray is directed upwardly toward said hood.

1,497,637 (June 10, 1924; appl. Sept. 2, 1921). VEGETABLE-VINE-SPRAYING MACHINE. Vince S. Polk, John B. Hunt, and Wilmer P. Davis, Wauchula, Fla. - This horse-drawn apparatus is used in spraying running vines, such as cucumbers and watermelons, to kill insects infesting them.

1,498,608 (June 24, 1924; appl. Jan. 3, 1924). SPRAYING MACHINE. Lewis Bishop, Arcadia, Fla. - This machine for spraying vegetation is actuated by the motion of the wheels.

1,500,162 (July 8, 1924; appl. Nov. 14, 1921). BOLL-WEEVIL DESTROYER. James E. Tate, Elberton, Ga. - This device, adapted to be mounted on a plow, is so constructed that spraying of an insecticide on the crop for the destruction of boll weevils can be carried on simultaneously with cultivation.

1,504,818 (Aug. 12, 1924; appl. Aug. 13, 1923). POISON DISTRIBUTOR. Jack P. Fullilove, Shreveport, La. - This machine which is designed to distribute poison on cotton plants is provided with drums which rotate in the direction opposite the direction of travel of the machine so that the drums will wipe the underside of the foliage and thereby thoroughly apply the liquid to the proper places on the cotton plants.

1,507,595 (Sept. 9, 1924; appl. Nov. 5, 1923). ATTACHMENT FOR FLOWS. William W. Goode, Tuskegee, Ala. - This device for distributing poisonous matter to cotton plants for the destruction of boll weevils is adapted for attachment to a plow.

1,511,066 (Oct. 7, 1924; appl. Apr. 15, 1922). POISON-APPLYING DEVICE. George N. Reeves, Macon, Ga. - This machine smears poison molasses and the like on cotton plants to exterminate boll weevils.

1,513,177 (Oct. 28, 1924; appl. Aug. 24, 1923). FLUID-POISON-APPLYING DEVICE. James J. Martin, Iva, S. C. - A device for applying fluid poison upon the buds of young cotton to prevent or destroy the boll weevil is described.

1,515,336 (Nov. 11, 1924; appl. June 13, 1923). DUSTER. Henry E. Brandt, North St. Paul, Minn. - The Dobbins Mfg. Co., North St. Paul, Minn. - This duster for applying insecticide to plants is designed to be easily carried and manipulated.

1,520,854 (Dec. 30, 1924; appl. Aug. 4, 1923). BOLL-WEEVIL-SPRAYING MACHINE. Nathan A. Carter, Earl, Ark. - This machine sprays cotton plants with liquid for the extermination of boll weevils.

1,522,172 (June 6, 1925; appl. July 6, 1923). PLANT SPRAYER. Fletcher G. Asbill, Ridge Spring, S. C. - This plant spraying device, includes a bottle for holding spray materials and a holder for the bottles whereby the latter may be conveniently supported and agitated to bring about a gradual discharge of its contents.

1,523,590 (Jan. 20, 1925; appl. Oct. 29, 1923; renewed Dec. 12, 1924). SPRAYING MACHINE. George D. Hartshorn, Cordele, Ga. - This machine distributes poison over the foliage of cotton plants and other vegetation for the purpose of killing boll weevils and other insects.

1,526,642 (Feb. 17, 1925; appl. Aug. 17, 1921). SPRAYING MACHINE. Charles H. Nissley, New Brunswick, N. J. - This machine sprays or distributes liquids or dusts which are fatal or poisonous to bugs, insects, or parasites which retard or destroy plant growth, and also such materials for the control of fungus diseases and provides means for spraying liquids or dusts from above and below to a row or series of rows of plants, vines, etc.

1,527,669 (Feb. 24, 1925; appl. Dec. 10, 1923). DEVICE FOR APPLYING POISON. Thomas Camp, Atlanta, Ga. - This device applies poison to vegetation, particularly to cotton plants for the purpose of killing boll weevils.

1,530,855 (Mar. 24, 1925; appl. July 3, 1924). LIQUID-POISON SPRAYER. Napoleon J. Saladiner, Bryan, Tex. - This machine sprays liquid poison upon three rows of a standing crop simultaneously.

1,532,203 (Apr. 7, 1925; appl. July 3, 1917). LIQUID PROJECTOR. Albert V. Sammis, Huntington, N. Y.;- Fire Gun Mfg. Co., Inc., Huntington, N. Y. - This device may be used as a fire extinguisher or as a sprayer for various agricultural purposes, etc.

1,534,947 (Apr. 21, 1925; appl. Oct. 8, 1923). MACHINE FOR DESTROYING BOLL WEEVILS. Ludlow B. Hallman, Dothan, Ala. - This portable apparatus sprays several rows of plants with a poisonous solution which will destroy plant insect life.

1,538,021 (May 19, 1925; appl. Mar. 26, 1923). SPRAYER-PUMP STRUCTURE. Henry E. Brandt, North St. Paul, Minn. - This invention comprises a closure device for a sprayer receptacle such as is used by gardeners and horticulturists.

1,539,789 (May 26, 1925; appl. July 1, 1922). SPRAYING APPARATUS. James H. Walker, Jr., Griffin, Ga.- This device includes a hood adapted to travel over plants or the like to be treated, together with a spraying medium carried by the hood.

1,543,021 (June 23, 1925; appl. Aug. 18, 1923). SPRAYING MACHINE. Neill P. McArthur, Wakulla, N. C. - This machine sprays an insecticide upon growing cotton plants for destroying boll weevils thereon as the machine traverses the rows of cotton. Means are provided for opening and exposing the harbors of the insects upon the plants and injecting the insecticide directly into such harbors.

1,543,915 (June 30, 1925; appl. Sept. 8, 1923). DUSTING APPARATUS. Lee B. Green, Lakewood, Ohio. - The Globe Machine and Stamping Co., Cleveland, Ohio. - This device comprises a valve and feeding mechanism for supplying powdered insecticide to be sprayed on vegetation.

1,544,600 (July 7, 1925; appl. Aug. 13, 1918). LIQUID-PROJECTING DEVICE. Albert V. Sammis, Huntington, N. Y. - Fire Gun Mfg. Co., Inc., Huntington, N. Y. - This device, primarily intended for use in fire extinguishers, may also be utilized in apparatus for spraying liquid or semi-liquid substances for agricultural purposes, etc.

1,551,327 (Aug. 25, 1925; appl. Mar. 5, 1924). BOLL-WEEVIL EXTERMINATOR. Phillip E. Pearce, Americus, Ga. - This machine simultaneously cultivates cotton plants and applies to them an insecticide for destroying the boll weevil.

1,551,796 (Sept. 1, 1925; appl. Aug. 31, 1923). PLANT-SPRAYING MACHINE. William G. Burns, Wilmont, Minn. - This spraying machine can be mounted on an unused cultivator or other wheeled support. It is intended for spraying potato plants with a mixture of Paris green or lead arsenate and water for exterminating insects.

1,557,412 (Oct. 13, 1925; appl. Mar. 13, 1924). SPRAYING MACHINE. Bennie B. Broadway, Summerton, S. C. - The spray nozzles of this machine can be adjusted to varying distances between rows of plants. It is intended for use in spraying an insecticide upon cotton, tobacco, potatoes and the like to destroy insects and worms.

1,557,650 (Oct. 20, 1925; appl. Aug. 28, 1924). SPRAYER CLOSURE. Henry E. Brandt, North St. Paul, Minn. Dobbins. Mfg. Co., North St. Paul, Minn. - This invention is applicable to different types of sprayers particularly for a sprayer having a liquid receptacle and a pump cylinder extending thereinto, which pump cylinder, together with the pump plunger rod, is removable to permit placing the liquid in the receptacle.

1,559,258 (Oct. 27, 1925; appl. Apr. 29, 1924). PORTABLE SPRAYER FOR DESTROYING VERMIN ON PLANTS. Friedrich Klusmeyer, Aplerbeck, Germany. - Steam generated in a boiler escapes through a pipe and carries with it poison or sulphur depending on the kind of vermin to be destroyed.

1,564,572 (Dec. 8, 1925; appl. July 3, 1924). COTTON SPRAYER. William F. Hester, O'Brien, Tex. - This machine for spraying cotton or other plants in rows emits a spray such that both the upper and lower surfaces of the plants receive treatment.

1,566,714 (Dec. 22, 1925; appl. Aug. 6, 1924). INSECT EXTERMINATOR. Stephen A. Wilson and Ephriom H. Marsh, Egypt, Ga. - This device, which distributes a liquid exterminator for boll weevils over growing plants, may be secured to a plow or other implement.

1,568,448 (Jan. 5, 1926; appl. June 20, 1923). INSECTICIDE-APPLYING MACHINE. William A. Freeman, Sycamore, Ga. - This machine applies liquid insecticide to cotton and other ^{growing} plants for the purpose of exterminating boll weevils and other insects.

1,579,316 (Apr. 6, 1926; appl. Aug. 14, 1925). PORTABLE SPRAY PUMP. William T. Hayden, Sullivan, Ind. - This device is for use in spraying fruit trees, plants and the like with an insecticidal fluid. It comprises a wheel-supported barrel with a pump and a foot treadle for operating the pump.

1,580,478 (Apr. 13, 1926; appl. May 23, 1925). ATTACHMENT FOR AUTOMATICALLY OPERATING SPRAYING GUNS OF POWER-DRIVEN SPRAYING PUMPS. George B. Fox and Joe G. Christian, Wolcott, N. Y. - This attachment is intended for mounting and operating the spraying guns so that they will automatically direct the spraying material to cover fruit trees from top to bottom as the spraying machine is moved past the trees.

1,583,619 (May 4, 1926; appl. Dec. 26, 1923). SPRAYER. Ernest W. Splittstoser, North Branch, Minn. - Splittstoser Co.,

North Branch, Minn. - Portions of the sprayer for field crops can be folded when not spraying, thus reducing the width of the machine.

1,593,383 (July 20, 1926; appl. Mar. 21, 1922). SPRAY PUMP. Colin Brown, Rochester, N. Y. - E. C. Brown Co., Rochester, N. Y. - This spray pump is of the type in which the pump cylinder is immersed into the liquid contents of a tank and is supported by a wall of the container.

1,598,628 (Sept. 7, 1926; appl. Sept. 10, 1923). HOOD. James H. Walker, Jr., Griffin, Ga. - Swabbing elements under a hood are saturated with a liquid destructive to insect life by means of a spray nozzle.

1,602,977 (Oct. 12, 1926; appl. Aug. 23, 1924). INSECT-POWDER DISTRIBUTOR. Edwin B. Horn, Byhalia, Miss. - This hand distributor for insect-powder consists of a hollow cylindrical casing, open at the lower end, in which a loose mesh, porous bag containing the powder is suspended. When the device is swung the powder sifts out in fine form. It is adapted for use in combating boll weevils.

1,611,774 (Dec. 21, 1926; appl. May 24, 1924). INSECTICIDE-APPLYING APPARATUS. Alexander C. Peel, Grosvenor, Tex. - One-half to Leonard Miller, Brownwood, Tex. - This device applies insecticide to the under sides of the leaves of plants so that it will be protected from drying by the sun's rays and from washing off by rain.

1,614,777 (Jan. 18, 1927; appl. Sept. 2, 1924). SPRAYING DEVICE. Samuel Dellagala, Worcester, Mass. - This device can be used in spraying insecticide on trees and also for spraying paint, white-wash and other liquids.

1,632,047 (June 14, 1927; appl. Apr. 28, 1926). SPRAYING-MACHINE. Daniel W. Smith, Malone, Tex. - The nozzles of this insecticide spraying machine are adjustable for different size plants.

1,633,294 (June 21, 1927; appl. Feb. 16, 1926). SPRAYING MACHINE. Arthur F. Stubenberg, Maunawala, Territory of Hawaii. - This horse-drawn machine applies liquid spraying materials to pineapple plants, berry plants, small fruit trees, vines, vegetables, or similar crops. It is operated by one man and one horse and is provided with an outrigger wheel to balance it.

1,638,758 (Aug. 9, 1927; appl. May 20, 1924). PLANT-SPRAYING APPARATUS. Jesse B. Boyett, Tampa, Fla. - This apparatus for spraying plants to destroy noxious insects provides means for thorough mixing of the spraying liquid to form a uniform mixture to prevent burning of the plants when sprayed.

1,643,423 (Sept. 27, 1927; appl. Mar. 24, 1927). MATERIAL-DISPENSING MEANS FOR POISONING MACHINES. John Q. Shunk, Bucyrus, Ohio, - This device blows poison powder or dust onto trees and plants by means of a fan as the apparatus is conveyed along the ground.

1,643,518 (Sept. 27, 1927; appl. July 31, 1924). LIQUID-SPRAYING MACHINE. Lester Ratliff, Morven, N. C. - This device is for use in spraying an insect exterminating solution on rows of cotton, tobacco, potatoes or the like. The spraying nozzle can be adjusted laterally for use in spraying plants various distances apart.

1,643,846 (Sept. 27, 1927; appl. Mar. 24, 1924). SPRAYING ATTACHMENT FOR PLOWS. James S. Hale, Barnesville, Ga. - This invention provides a cultivator with means for spraying plants at the sides of the furrow made by the cultivator shovel with a liquid insecticide as well as brushing said plants to remove insects therefrom.

1,648,154 (Nov. 8, 1927; appl. Aug. 28, 1925) SPRAYING MACHINE. Jacob J. Steiger, Overland, Mo. - This machine for spraying trees, shrubbery and the like can be attached to the frame of a tractor and operated by the power of the tractor.

1,656,171 (Jan. 17, 1928; appl. Oct. 29, 1925). PLANT-SPRAYING APPARATUS. George T. Cox, Waco, Tex. - This machine straddles plants, shrubs or trees and sprays them from below and the sides with an insect destroying liquid.

1,669,435 (May 15, 1928; appl. Nov. 24, 1922). APPARATUS FOR TREATING VEGETATION. William W. Wheeler, Jacksonville, Fla. - This invention relates to an apparatus for treating vegetation and is especially, though not necessarily, adapted for spraying or fumigating plants or crops for the purpose of destroying insects or vermin and arresting the progress and development of disease or injurious fungus.

1,671,779 (May 29, 1928; appl. May 22, 1922). SPRAYING DEVICE. George T. Pearsons, New York, N. Y. - This device may be utilized for spraying trees, shrubbery and the like with an insecticide or as a fire extinguisher.

1,672,058 (June 5, 1928; appl. Jan. 12, 1924). INSECTICIDE-APPLYING MACHINE. Eugene M. Cole, Charlotte, N. C. - This machine is provided with wiping fingers for applying liquid insecticide, fungicide or the like to plants.

1,674,515 (June 19, 1928; appl. Apr. 12, 1927). SPRAYER. Joe S. Johnson, El Centro, Calif. - A device for spraying plants to destroy insects or spraying medicines, disinfectants and the like upon animals, chickens and other fowls or buildings to kill or drive away vermin, is actuated by fluid pressure.

1,678,061 (July 24, 1928; appl. Jan. 16, 1923). INSECTICIDE DISTRIBUTOR. Edward Fowler and John V. Lewis, Chattanooga, Tenn. - This spraying device is mounted on a cultivator. An insecticide can be applied to the growing crops either while cultivating them or merely using the cultivator as a vehicle for the sprayer.

1,691,097 (Nov. 13, 1928; appl. Apr. 8, 1927). SPRAYING APPARATUS. Gilbert C. Waters, Jr., Rochester, N. Y. - E. C. Brown Co., Rochester, N. Y. - In this spraying apparatus a pump is projected into a liquid holding reservoir or container for use in building up pressure for ejecting the liquid therefrom in the form of a spray.

1,700,726 (Jan. 29, 1929; appl. June 17, 1925). SULPHURING MACHINE. Claude T. Spivey, Fresno, Calif. - Fresno Agricultural Works, Fresno, Calif. - This device pulverizes sulphur as it passes through the hopper of a machine which dusts it on vegetation to prevent mildew.

1,731,767 (Oct. 15, 1929; appl. Aug. 24, 1928). DISPENSING DEVICE. George F. Cramer, Newark, N. J. - This device for spraying foliage with disinfectant or other solution is operated by the pressure of a fluid, such as water.

1,733,883 (Oct. 29, 1929; appl. Nov. 15, 1927). COTTON-SPRAYING MACHINE. Albert Jaacks, Seale, Tex. - This sprayer for cotton and other plants sprays the underside of the foliage and the plant growth beneath the leaves.

1,746,524 (Feb. 11, 1930; appl. Aug. 27, 1928). DOUBLE-ACTION SPRAYER. Esek O. Corson, Berkeley, Calif. - This invention provides a pump for use in connection with drums employed for transferring chemicals such as insecticides for the purpose of destroying weeds or insects.

1,749,216 (Mar. 4, 1930; appl. July 19, 1928). DOUBLE-ACTING PUMP. David H. Goldman, Cleveland, Ohio. - This pump can be used with fire extinguishing liquids, penetrating oils, insecticides and other liquids of like nature.

1,751,039 (Mar. 18, 1930; appl. July 19, 1928). SPRAYING MACHINE. Louis C. Janssen and Wilhelm A. Janssen, Lagrange, Tex. - The traction wheels of this machine furnished power for operating the pump. It is particularly adapted for spraying cotton or other crops with insecticide or fungicide.

1,759,988 (May 27, 1930; appl. Apr. 11, 1928). SPRAYING MACHINE. William D. Knapp, San Francisco, Calif., - One-half to George Dawsett, San Francisco, Calif. - This power spraying machine is arranged to move between rows of trees or vines and spray them with a suitable solution. It is an improvement over the mechanism described in U. S. patent 933,039 issued Aug. 31, 1909 to W. D. Knapp.

1,755,716 (Apr. 22, 1930; appl. Dec. 16, 1927). LIQUID-SPRAYING MACHINE. William H. Thompson, Wichita Falls, Tex. - J. W. Duncan, Wichita Falls, Tex. - This machine sprays row crops with liquid poison for insect infestation.

1,764,952 (June 17, 1930; appl. Aug. 30, 1929). INSECT DESTROYER. Clarence B. Hay, Sumter, S. C. - This invention relates to a device for applying a liquid poison to plants, and is particularly adapted for use in applying such poison to cotton plants, for the purpose of killing the boll weevil. The poison ordinarily employed in killing the boll weevil upon cotton plants, consists of one gallon of water, one gallon of molasses and one pound of calcium arsenate.

1,807,469 (May 26, 1931; appl. May 6, 1930). SPRAYING MACHINE. William Brehmer, San Antonio, Tex. - Machine for spraying rows of plants with a poisonous liquid for exterminating insects which are injurious to the plants, especially boll weevils in cotton fields, is described.

1,825,648 (Sept. 29, 1931; appl. Apr. 19, 1930). INSECTICIDE APPLYING APPARATUS. John C. Hewitt, Timmonsville, S. C. - One-half to Lacy A. Cashwell, Stamford, Conn. - This machine for applying a liquid poison to growing plants, such as the cotton plant, to destroy the boll weevil may be attached to a plow, so that the poison may be applied during the cultivation of the cotton.

1,831,979 (Nov. 17, 1931; appl. Feb. 23, 1928). CHEMICAL SPRAYER. Caswell D. Swett, Redwood City, Calif. - This invention relates to a spraying apparatus adapted for use in spraying chemicals on trees, shrubs and plants. In general, it is the object of the invention to provide a chemical sprayer in which a cylinder is divided into two compartments by a reciprocally mounted piston, one compartment of which is discharged by simultaneously charging the opposite compartment from the water supply main.

1,883,479 (Oct. 18, 1932; appl. Apr. 27, 1929). POWER SPRAYER. Fred H. Bateman, Grenloch, N. J., and Isaac Trolley, York, Pa. - Fred H. Bateman Co., Philadelphia, Pa. - This invention relates to a machine for spraying potato plants, etc.

1,883,771 (Oct. 18, 1932; appl. Sept. 16, 1931). COMBINED PLANT DUSTER AND FERTILIZER. Earl C. Duncan, St. Anne, Ill. - This device may be readily converted from a device for use in distributing fertilizer, to a device for use in distributing insect powder over plants.

1,895,009 (Jan. 24, 1933; appl. Mar. 16, 1928). LIQUID RECEPTACLE AND SPRINKLER. Herbert F. Sielaff, Chicago, Ill. - A container and sprinkler for germicides is described which can be suspended in suitable places, e.g., on the under side of a refuse box cover.

1,896,882 (Feb. 7, 1933; appl. Aug. 22, 1931). POISON SPREADER. James M. Butler, Blaney, S. C. - This device may be carried upon the shoulders and will simultaneously drip poison liquid on two rows of cotton or other plants as the operator walks between the rows.

1,906,013 (Apr. 25, 1933; appl. July 23, 1930). PLANT SPRAYING MACHINE. Maurice J. Phalen, Marathon, N. Y. - This machine embodies means for keeping the spray nozzle in proper position relative to the rows of plants when traveling across a hillside.

1,915,124 (June 20, 1933; appl. Mar. 12, 1932). FLUID PRESSURE SPRAYING APPARATUS. William Ernst, Kansas City, Kans. - This portable apparatus for spraying chemical solutions on plants, trees and the like is operated by compressed air.

1,920,636 (Aug. 1, 1933; appl. Feb. 18, 1931). SPRAYER CONSTRUCTION. Nicholas W. De Frees, Hastings, Minn. - H. D. Hudson Mfg. Co., Chicago, Ill. - This invention relates to improvements in sprayers of the type in which a pump unit is removably mounted in a tank, with the piston or pump rod extending outwardly from the end of the cylinder and tank, and having a grip thereon for operating it. In devices of this kind, the pump rod grip and the pump rod serves as means for carrying the tank.

1,931,662 (Oct. 24, 1933; appl. Sept. 15, 1932). INSECT EXTERMINATOR. Peter Lambertus, Emmett H. Trimpe and Kenneth G. Kountz, Indianapolis, Ind. - Acme Sales Corp., Indianapolis, Ind. - This invention provides a hand-portable device for producing a spray for the extermination of noxious insects, particularly such insects as infest hotels, apartments, and other dwelling houses. Steam, used for stomizing a poisonous liquid, is generated by means of an electrode energized by current from the house service wires.

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